

**Johns - Manville**

# **SOUND**



**control**

**noise  
quieting  
acoustical  
correction  
vibration  
isolation**



## RESPONSIBLE INSTALLATION

FOR best results Johns-Manville acoustical materials are installed only by Johns-Manville's own construction department or by J-M Approved Acoustical Contractors. Trained construction crews, under the supervision of competent acoustical engineers, insure that your project will receive the maximum in noise quieting benefits.

Whether large or small, simple or complex, every J-M acoustical project receives this same careful and painstaking responsibility. Johns-Manville maintains a staff of acoustical engineers in the principal cities who are prepared to make analyses of acoustical problems in buildings of all types and give specific recommendations. Their services are available without cost or obligation. When you use J-M Acoustical Materials you not only get quality products but also a workmanlike and competently engineered job.

# Johns-Manville

## PIONEER IN SOUND CONTROL

FOR the past 35 years, Johns-Manville has pioneered the development of acoustical materials and their proper method of application. J-M is, therefore, able to provide a scientifically correct solution to virtually any problem involving control of sound.

As a result of years of research and experience, Johns-Manville has developed several types of acoustical materials, each eminently adapted for specific conditions. Outstanding among them are J-M Sanacoustic Units, J-M Transite Panels and Units, and J-M Fibretone.

**J-M SANACOUSTIC\* UNITS:** A perforated metal panel backed up with a sound-absorbing element. Desirable for offices because of its low maintenance cost, good light reflection and non-combustibility. Highly recommended for hospitals because it is easily kept clean.

**J-M TRANSITE\* PANELS AND UNITS:** A perforated asbestos-cement facing backed with a sound-absorbing element. Recommended for kitchens, utility rooms, swimming pools, dishwashing rooms, and any place where excessive moisture is also a problem. It is the standard acoustical product for use in broadcasting studios. Non-combustible, easily maintained, withstands severe impacts.

**J-M FIBRETONE UNITS:** A drilled fibreboard unit. Fibretone is a low-cost acoustical product for modest budgets. As with all perforated acoustical products it can be painted and repainted without reducing its efficiency. Because of its comparatively low cost and ease of maintenance, it has a wide usage in schools, institutions, restaurants, banks, factory offices, bowling alleys, court houses, etc.

### Johns-Manville Studio Control

Studio control includes both sound isolation and acoustical treatment. The isolation is necessary to prevent extraneous noise from entering the studio areas and to isolate against rehearsal programs in adjoining studios. The acoustical materials consist of perforated Transite panels backed with special sound-absorbing elements developed for the broadcasting field. The acoustical materials must provide absorption characteristics to the studio that will retain fidelity of the broadcast. They must be strong and durable to withstand wear and tear when installed on the wall surfaces.

### Johns-Manville Unit Construction

To meet the basic requirement for flexibility in modern building construction, J-M Sanacoustic Units are often combined with J-M Transite Movable Walls, and J-M Asphalt Tile Flooring to provide room or building interiors. Because Sanacoustic units are demountable and the Transite Walls easily dismantled and re-erected, and because Asphalt Tile Floors permit alteration and expansion of floor areas, the use of these three products in Unit Construction is an ideal solution to the problem of meeting changing space requirements.

\*Reg. U. S. Pat. Off.



# JOHNS-MANVILLE SANACOUSTIC UNITS



Sanacoustic Units on ceiling of this modern office are attractive as well as acoustically efficient.

**Description:** Johns-Manville Sanacoustic Units consist of perforated metal with a baked enamel finish containing a rock wool pad of predetermined thickness and density which serves as a highly efficient sound absorbing medium. The units are held in place by special tee bars. For sizes, finishes and test data see pages 14 and 15.

**Advantages:** Sanacoustic Units combine exceptionally high sound absorbing qualities with a high coefficient of light reflection.

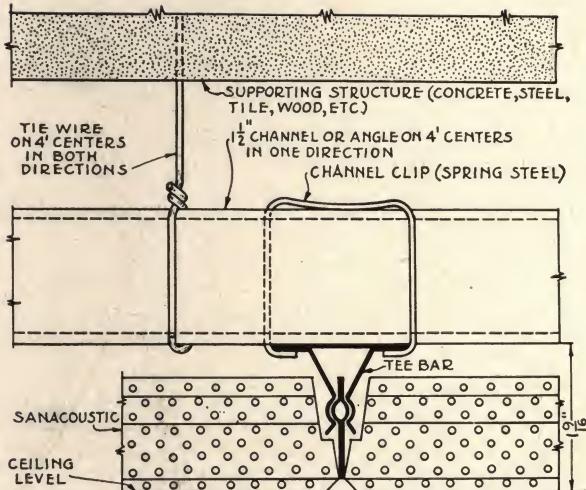
Composed of metal, rock wool and asbestos, these units will not burn, rot or disintegrate. They may be washed repeatedly without injury to the finish or painted without loss of sound-absorbing efficiency. Their baked enamel finish permits them

to be kept clean and sanitary at minimum maintenance cost. They are particularly fitted for use in hospitals, schools, offices, stores, public lobbies, restaurants and many other locations where a durable, attractive, easy to clean acoustical material is required.

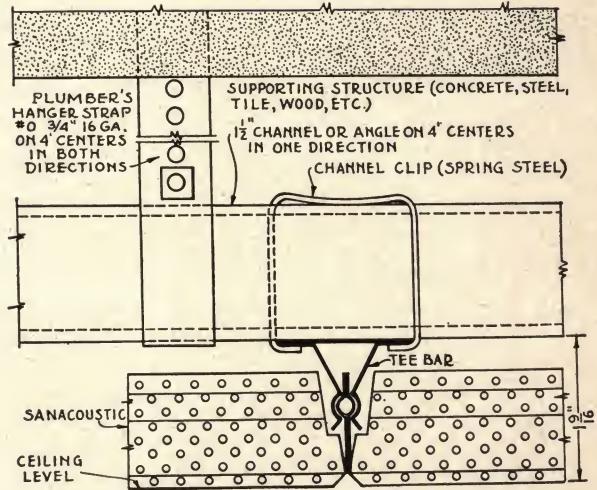
**Application:** Sanacoustic Units may be applied to existing ceilings or hung as a suspended ceiling from furring channels as shown in sketches on the opposite page. In either case the Units are snapped into tee bars that are mechanically fastened to the surface to be treated. This method of installation assures perfect alignment and also permits any part of the ceiling to be taken down and relocated without loss of materials.

# JOHNS-MANVILLE SANACOUSTIC UNITS

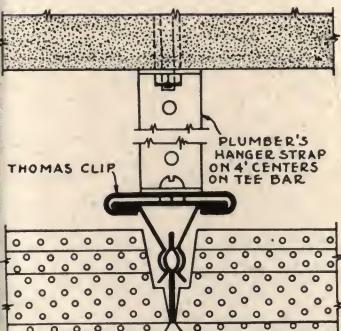
## CONSTRUCTION DETAILS



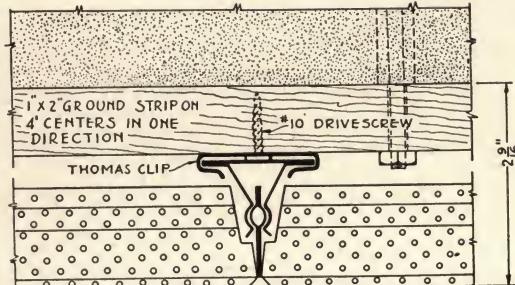
Attached to channels suspended by tie wires



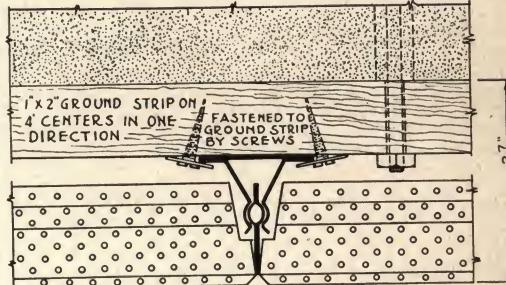
Attached to channels suspended by straps



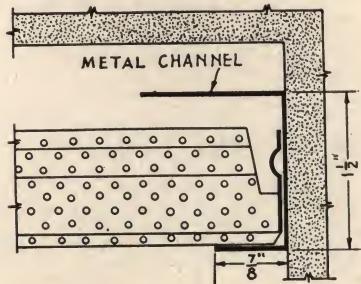
Tee bars suspended by Thomas clips and straps



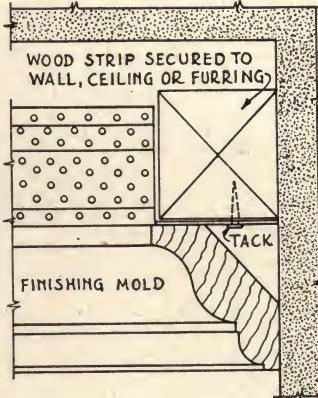
Tee bars attached to grounds by Thomas clips and drive screws



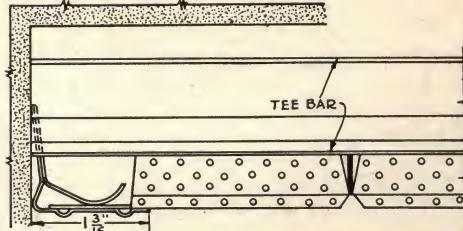
Tee bars fastened to grounds by wood screws



Metal channel supports Units at wall and acts as moulding



Typical installation with wood moulding



Typical installation with metal edge moulding

# J-M SANACOUSTIC UNITS WITH FLUORESCENT LIGHTING



Fluorescent troffers may be spaced in Sanacoustic ceiling to give desired lighting results

**Description:** An exclusive Johns-Manville patented construction system makes possible the interchangeability of flush type fluorescent lighting with J-M Sanacoustic ceiling units. The fluorescent troffers are held in place by the same tee bars that support the acoustical units and they may be installed or easily relocated to provide the lighting results desired by the architect.

**Advantages:** Sanacoustic Units with fluorescent troffers combine two important developments for modern interiors—good lighting and efficient sound

control. Moreover, the design and construction methods employed permit interchangeability of the units; give complete flexibility in arrangement; and permit ready accessibility to wiring or any portion of the installation.

**Application:** Metal tee bars are first secured in the same manner as shown on page 5. The troffers are then located and snapped into place as shown in drawings on opposite page. Sanacoustic Units are then inserted into the tee bars to complete the installation.

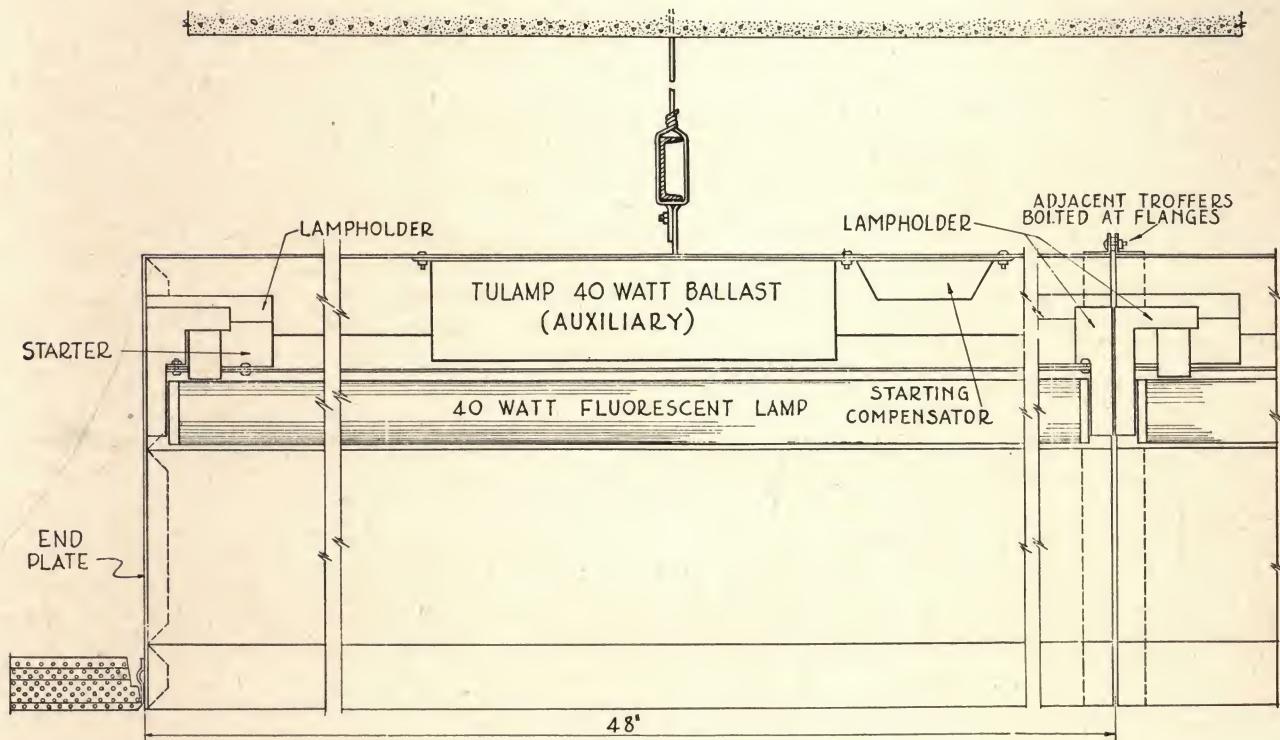
Fluorescent troffers may also be installed in a continuous pattern depending on the lighting and architectural effect required



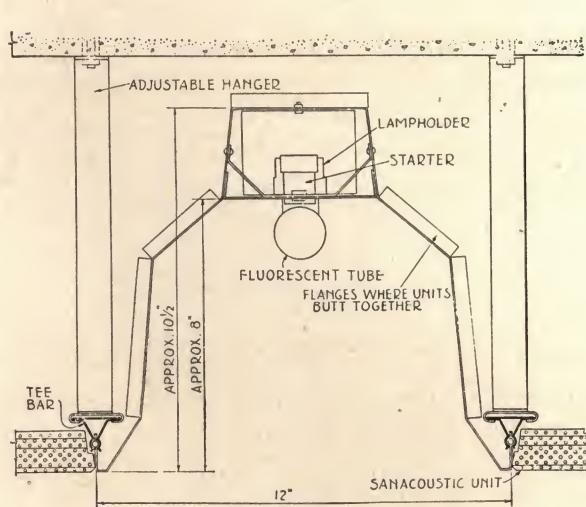
# J-M SANACOUSTIC UNITS WITH FLUORESCENT LIGHTING

11a  
5

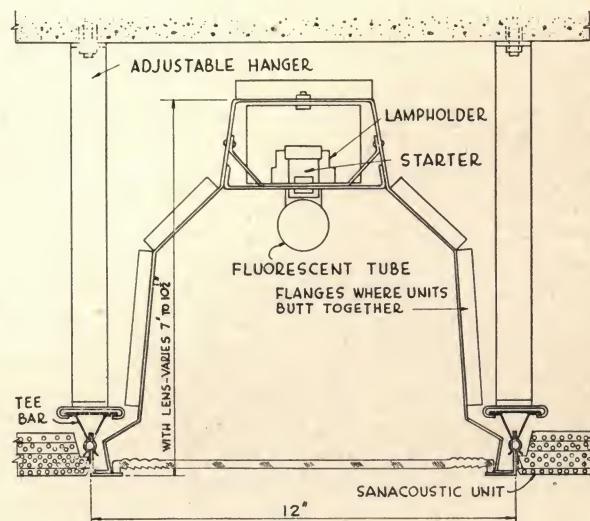
## CONSTRUCTION DETAILS



Longitudinal section of fluorescent troffer



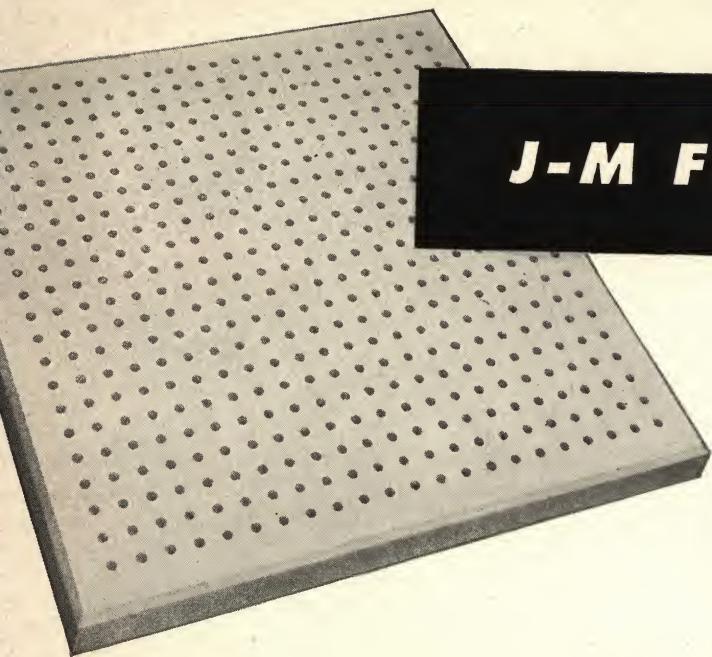
Open type



With Holophane lens

Cross sections of fluorescent troffers showing details of tee bar supports

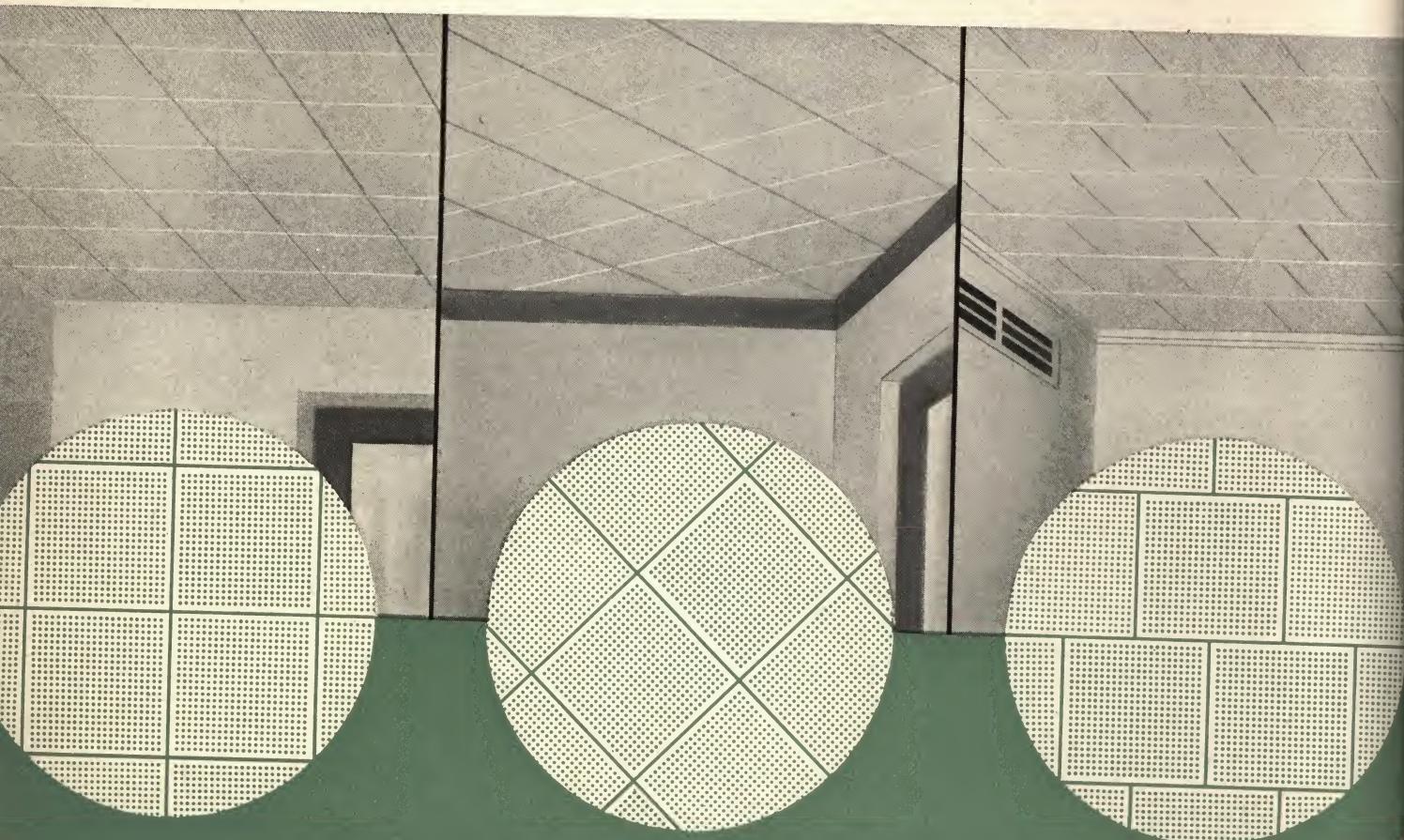
# J-M FIBRETON-E-THE QUIE



Each Fibreton panel is an attractive beveled unit 12" square containing 484 drilled holes

**Description:** The development of Fibreton Acoustical Units by Johns-Manville is based on more than 30 years of research and experience in the manufacture of acoustical products. From Johns-Manville's own pine forests in Virginia and Mississippi come the selected wood fibers from which Fibreton is made. By controlling each step, from raw material to finished Fibreton Unit, J-M is able to insure quality and at the same time effect important economies in the manufacture of this outstanding acoustical product.

Like all Johns-Manville acoustical materials, Fibreton is scientifically designed to effectively quiet unnecessary noise. It is manufactured in the form of attractive beveled units, 12" square. Drilled holes extend into the Fibreton unit to increase its sound absorbing effectiveness. Sound waves, as they strike the unit, enter the holes where the sound energy is dissi-



SQUARE PATTERN

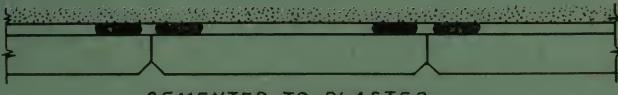
DIAGONAL PATTERN

BROKEN JOINT PATTERN

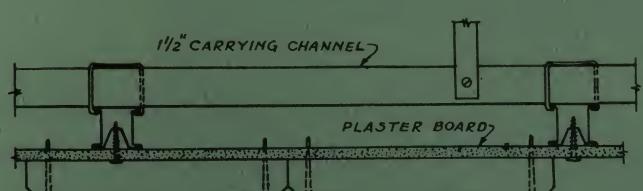
# CEILING WITH 100,000 NOISE TRAPS



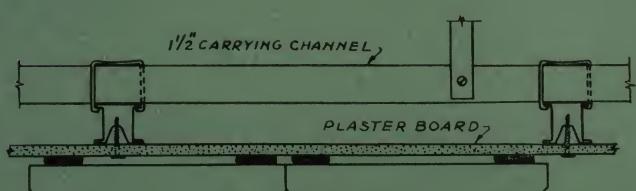
NAILED TO 1" X 3" WOOD FURRING 12" O.C.  
UNLESS OTHERWISE INDICATED



CEMENTED TO PLASTER



1 1/2" CARRYING CHANNEL  
PLASTER BOARD  
MECHANICALLY FASTENED TO PLASTER BOARD  
SUSPENDED BY METAL FURRING



1 1/2" CARRYING CHANNEL  
PLASTER BOARD  
CEMENTED TO PLASTER BOARD  
SUSPENDED BY METAL FURRING

Illustrated above are four installation methods that are commonly required or specified. As drawings show, it is equally simple to apply Fibrethane on new construction or to existing ceiling areas. Special construction problems should

be discussed with the J-M Sales Representative. On the back cover are listed the J-M Regional Offices, where trained acoustical engineers are available, at no obligation, to help you in solving any noise quieting problem you may have.

pated. Because the average ceiling, 15' by 15', contains 108,900 of these holes, Fibrethane is called the "ceiling with 100,000 noise traps."

**Advantages:** The great advantage of Fibrethane is that it brings the cost of Johns-Manville sound control within the reach of almost anyone having a noise quieting problem. It can be installed at a cost which compares favorably with that of ordinary noise reflecting ceilings. Fibrethane is very efficient acoustically as the tables on pages 14 and 15 demonstrate. The panels give an attractive appearance which is preferred by many to that of conventional ceiling construction. Fibrethane units are factory painted and require no finishing treatment on the job. They may be painted and repainted without suffering any loss in sound absorbing efficiency. The drilled holes are so spaced and designed that the application of paint does not bridge them. The use of Fibrethane does not require any structural changes in existing rooms or buildings.

**Application:** Fibrethane may either be cemented to plaster, concrete, or plaster board ceilings, or nailed to 1" x 3" wood furring. The more usual methods of application are diagrammed above. Units may be installed in a variety of patterns as illustrated on the left.

Bank office shows the attractive appearance obtained when Fibrethane is used for quieting unnecessary noise.



# JOHNS-MANVILLE TRANSITE ACOUSTICAL MATERIALS

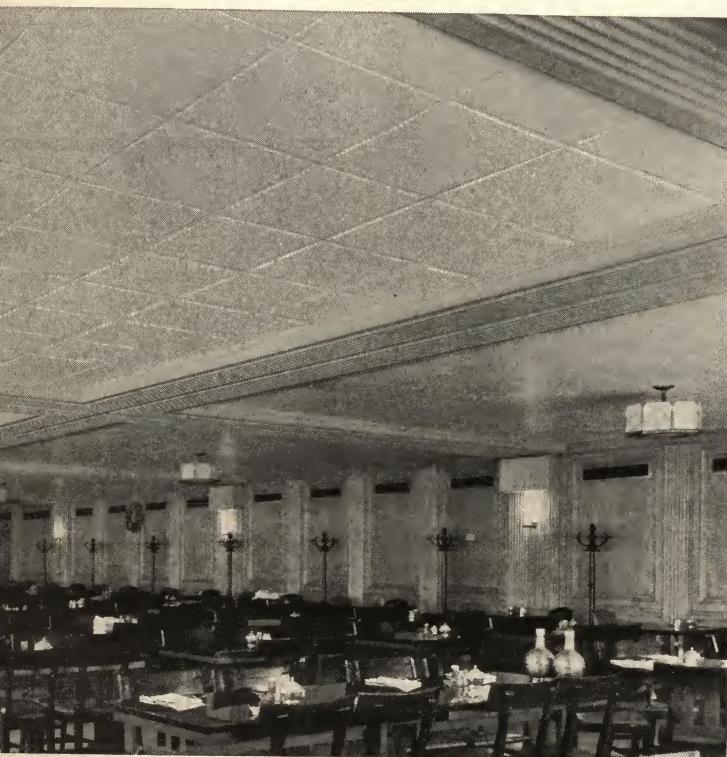
## Transite Acoustical Panels and Units

**Description:** Transite Acoustical *Panels* consist of a perforated asbestos-cement Transite facing,  $3/16"$  thick, used in conjunction with a sound-absorbing element. The Transite facing is used mostly in the  $24" \times 24"$  size which is particularly suitable for large areas. In many instances, however, the facing is installed with square edges and butt joints thus minimizing or eliminating all tile lines. The sound-absorbing element is available in a number of thicknesses and types depending on the acoustical requirements.

Transite Acoustical *Units* consist of a Transite perforated facing,  $1/8"$  thick, backed up by a rock wool sound-absorbing element. The component parts are held together by brass grommets which also contain openings for nailing the units in place. Sizes, finishes and data are given on pages 14, 15.



Transite Acoustical Panels provide ceilings that are exceptionally flat and true



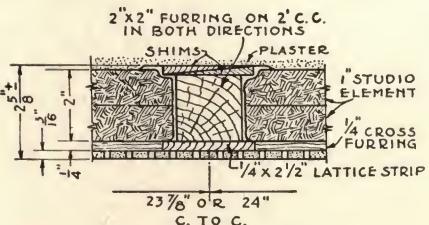
**Advantages:** Both of these materials are particularly resistant to fire and moisture. The *Panels* are especially adapted for use in broadcasting studios, music rooms, and auditoriums. Both *Units* and *Panels* are used in swimming pools, kitchens, gymnasiums and chemical laboratories. Both are easy to clean and may be repainted without loss of acoustical efficiency.

**Application:** In the case of Transite *Panels*, the sound-absorbing element is installed between furring strips (wood or special metal) to which the Transite facing is fastened by nails and screws. Transite *Units* are installed by nailing to the supporting structure. See drawings on opposite page.

Transite Acoustical Panels, in size  $24" \times 24"$ , are architecturally desirable in many areas

## CONSTRUCTION DETAILS

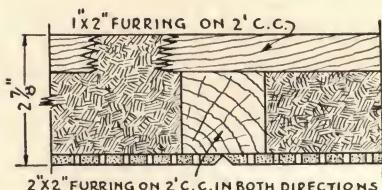
### TRANSITE ACOUSTICAL PANELS



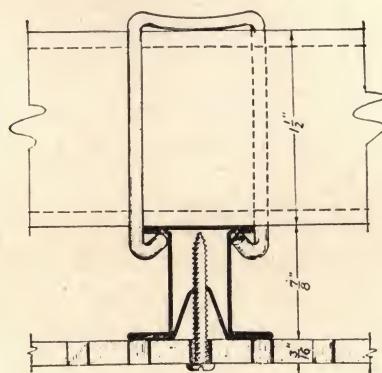
with 2" Studio Element



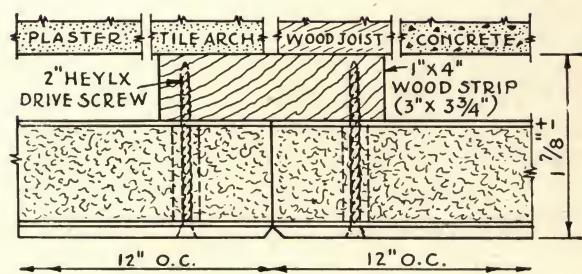
with 1" Rock Wool Blanket



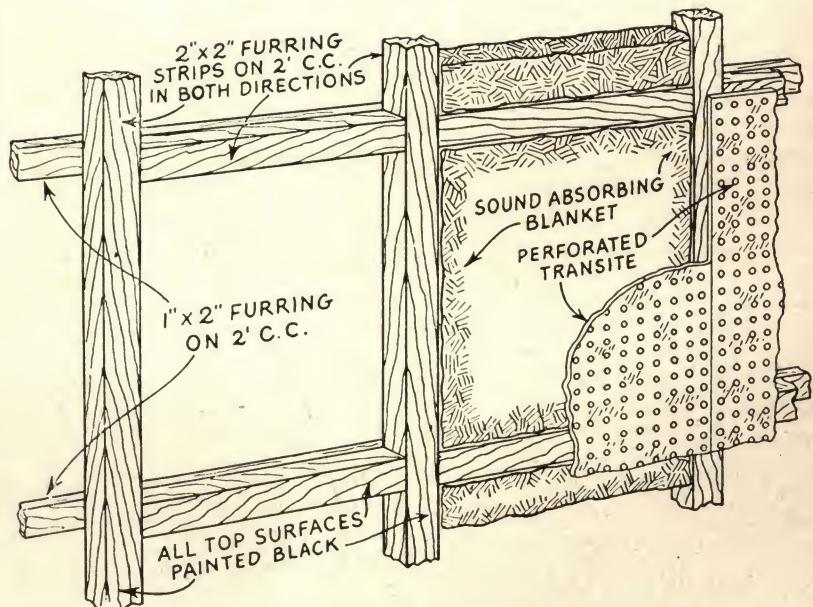
with 2" Rock Wool Blanket



Detail of metal furring for Transite Acoustical Panels



Drawing shows a common method of installing Transite Acoustical Units



Transite Acoustical Panels nailed to wood furring strips

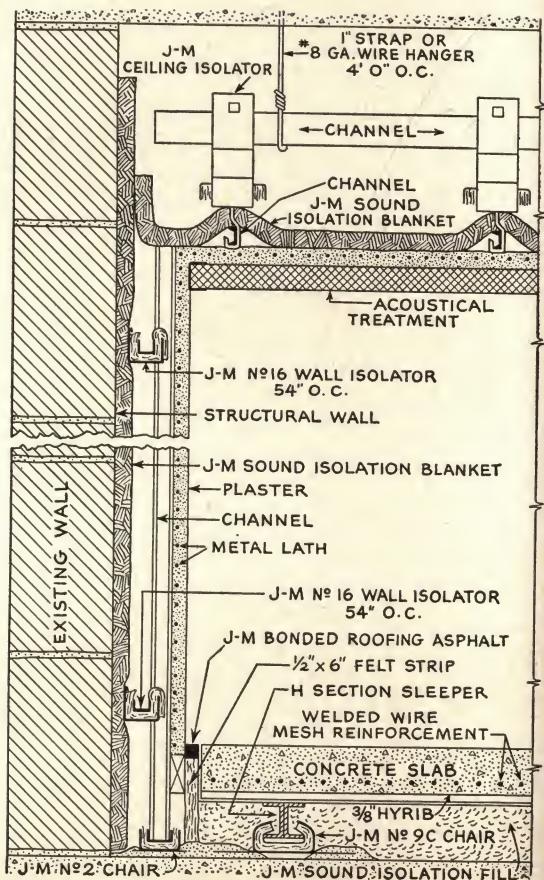
# J-M ACOUSTICAL MATERIALS FOR BROADCASTING STUDIOS



One of the newer broadcasting studios located at NBC, Radio City

SINCE the early days of radio, Johns-Manville has been providing correct acoustics for broadcasting studios. Today, a majority of the country's stations, large and small, depend on J-M Sound Control to insure a faithful reproduction of their programs. Studio sound control, involving the elimination of excessive reverberation, the diffusion of residual sound, and the isolation of undesired extraneous sounds, is practically a specialized branch of acoustical engineering. For this reason Johns-Manville has engineers available to make studies of studio problems and to submit authoritative recommendations.

Right: The room within a room principle used in broadcasting studio construction for sound isolation is detailed on the right



## JOHNS-MANVILLE INDUSTRIAL QUIETING



THE use of sound-absorbing materials in factory areas is gaining in importance. The worker, management has found, increases his productive capacity, both in quantity and quality, in direct ratio to the comfort of his working conditions and surroundings.

The use of sound-absorbing materials in factory areas permits increased ease and accuracy in verbal communication in the treated areas. Surveys disclose that sound-absorbing materials will lessen noise discomfort in factory areas. It also permits detection and localization of minor sounds in machinery and elsewhere. This detection may avoid breakdowns that might otherwise occur in defective machinery.

The use of sound-absorbing materials eliminates the reflections, or in other words, the spreading effect of sound. It reduces the tendency of noise to reach the listener from points or surfaces other than the source. Safety departments and others are keenly interested today in the use of efficient sound-absorbing materials in noisy plant or factory areas.

One of the several Johns-Manville acoustical materials will undoubtedly meet your needs.

Left: J-M acoustical treatment in working areas of factories often lead to less nerve strain and increased production.

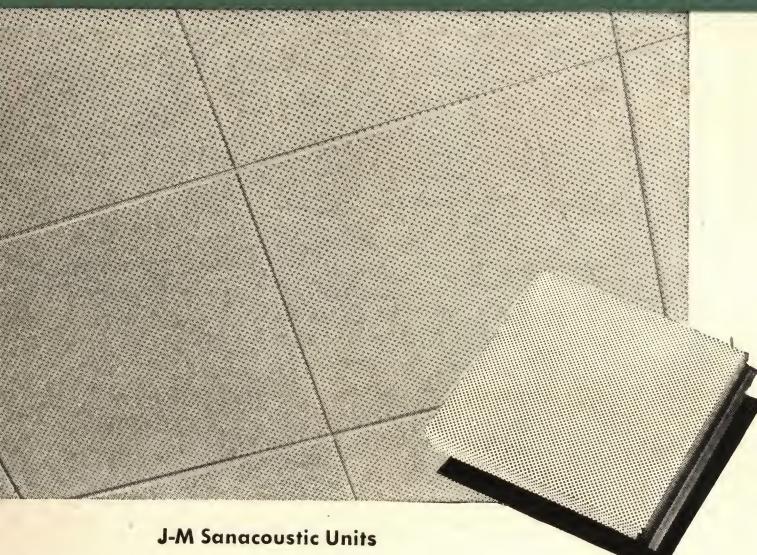
## JOHNS-MANVILLE AIRACOUSTIC SHEETS

J-M AIRACOUSTIC SHEETS provide a fire-safe, sound-absorbing material developed for use in ventilating ducts. Since they absorb a large percentage of the sound that strikes them, they provide a highly effective means of reducing undesirable duct noises. Composed of rock wool and a suitable binder, Airacoustic Sheets are available in size 24" x 36" and in thicknesses of  $\frac{1}{2}$ " and 1".

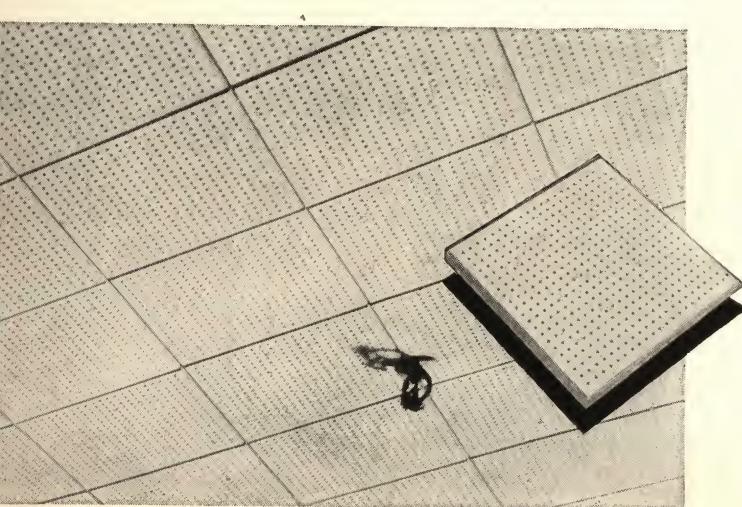
The noise reduction coefficient of the  $\frac{1}{2}$ " thickness of Airacoustic is .60, and of the 1" thickness is .70.



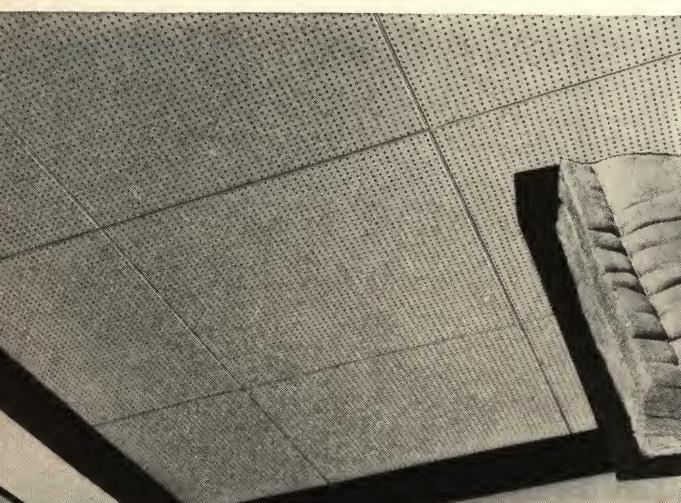
# JOHNS-MANVILLE SOUND CONTROL PRODUCTS



J-M Sanacoustic Units



J-M Fibretoner Units



J-M Transite Acoustical Panels

## SANACOUSTIC UNITS

SIZE	THICKNESS	COLOR	APPLICATION
12 x 24	2 1/2"	White	Mechanical fastening
12 x 12	(includes furring)	Cream	
16 x 16			

## FIBRETONE ACOUSTICAL UNITS

SIZE	THICKNESS	COLOR	APPLICATION
12 x 12	1/2"	White	Cement in place
12 x 12	13/16"		

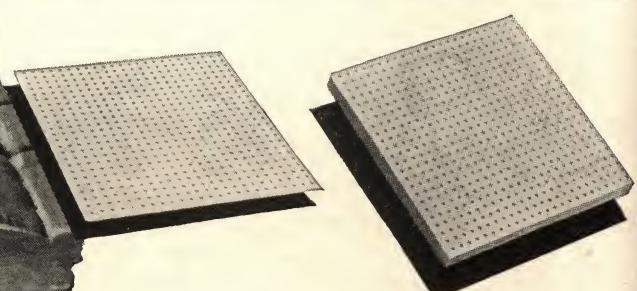
## TRANSITE ACOUSTICAL UNITS

SIZE	THICKNESS	COLOR	APPLICATION
12 x 12	2 3/8"	White	Nail to furring strips
6 x 12	(includes furring)	Cream	
		Natural gray	

## TRANSITE ACOUSTICAL PANELS

12 x 12	3/16"	White	Nail to furring strips
12 x 24	plus furring	Cream	
23 7/8 x 23 7/8		Natural gray	
24 x 24			
23 7/8 x 47 3/4			
24 x 48			

J-M Transite Acoustical Panels J-M Transite Acoustical Units



DESCRIPTION AND DATA CHART

MATERIAL	Thickness	Mounting	COEFFICIENTS						Noise Red. Coef.	Light Reflection		Wt. Lbs. per Sq. Ft.	SURFACE	Test No.
			128	256	512	1024	2048	4096		Color	Value			
SANACOUSTIC	1 $\frac{1}{4}$ "	Attached to metal supports applied to 1" x 2" wood furring.	.25	.58	.96	.97	.85	.72	.85	W	.76	Pad 1.28	Perforated, enameled metal. See note 1	46-88
	1 $\frac{9}{16}$ " 2 $\frac{1}{2}$ "		.14	.70	.61	.70	.56	.54	.65	Wp	.76	Pad 1.31		
Type MA, pad Plus metal facing and pad supports Plus furring	1 $\frac{1}{8}$ "									Wu	.85		50/50 pattern. See Note 2	A48-13
	1 $\frac{9}{16}$ " 2 $\frac{1}{2}$ "													
TRANSITE ACOUSTICAL PANELS	1"	Nailed to 1" x 3" wood furring 24" o.c. 1" mineral wool between furring.	.17	.49	.94	.90	.70	.43	.75	—	—	1.20	Perforated, unpainted. See Note 3	46-77
	1 $\frac{3}{16}$ "													
Rock Wool Blanket Plus perforated Transite	2"	Nailed to 2" x 2" wood furring 24" o.c. 2" mineral wool between furring.	.29	.57	.94	.93	.70	.48	.80	—	—	2.00	Same as above	46-43
	2 $\frac{3}{16}$ "													
TRANSITE ACOUSTICAL UNIT, pad	1" 1 $\frac{1}{8}$ "	Nailed to 1" x 2" wood furring 12" o.c.	.32	.58	.72	.85	.76	.67	.75	—	—	2.20	Perforated, painted. See Note 4	47-45
SOUND ISOLATION Blanket MK Blanket MK	1" 2"	Laid directly on laboratory floor.	.22 .39	.46 .57	.86 .91	.98 .91	.88 .80	.77 .78	.80 .80	—	—	1.20 2.00	} Covered with muslin, } unpainted.	46-73 46-42
FIBRETONE	1 $\frac{1}{2}$ " 1 $\frac{3}{16}$ "	Cemented to plaster board.	.08 .14	.28 .37	.58 .69	.71 .80	.68 .76	.65 .73	.55 .65	W W	.71 .71	.71 1.17		
	1 $\frac{3}{16}$ "	Nailed to 1" x 2" wood furring 12" o.c.	.18	.54	.72	.74	.71	.72	.70	W	.71	1.17	See Note 6	46-123
AIRACOUSTIC	1 $\frac{1}{2}$ " 1"	Laid on 24 ga. sheet iron, nailed to 1" x 2" wood furring 24" o.c.	.13 .29	.41 .51	.40 .70	.72 .82	.78 .79	.72 .80	.60 .70	—	—	.80 1.50	Unpainted. Unpainted.	46-70 46-71

Note 1. Sanacoustic is a perforated, enameled metal pan backed with mineral wool sound-absorbing pad. Perforations are .068" in diameter, 4608 holes per sq. ft.

Note 2. One-half perforated enameled metal backed with rock wool pads; one-half enameled metal unperforated, unbacked. Perforations .068" in diameter, 4608 per sq. ft.

Note 3. Holes are  $\frac{3}{16}$ " in diameter, 600 per sq. ft.

Note 4. Holes are  $\frac{5}{32}$ " in diameter, 576 per sq. ft.

Note 5. Holes are  $\frac{3}{16}$ " in diameter,  $\frac{3}{8}$ " deep; 484 per sq. ft.

Note 6. Holes are  $\frac{3}{16}$ " in diameter,  $\frac{11}{16}$ " deep, 484 per sq. ft.

# Johns-Manville

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